

## WHAT IS CLAIMED:

1. An image sensor comprising a matrix of solid-state light sensor elements, each of which represents a unit pixel and is capable of reading out in a time series sensor signals of respective pixels by sequentially selecting pixel lines one by one and sequentially selecting sensor signals one by one in a selected pixel line, characterized in that each of the pixel lines is evenly divided into a plurality of blocks with each block composed of a specified number of pixels, a first scanning means is provided for sequentially reading out pixel sensor signals on a block-by-block basis starting from a first block, a second scanning means is provided for sequentially reading out pixel sensor signals on a pixel-by-pixel basis from a selected block and a bias circuit is provided for converting a pixel sensor signal scanned by the first scanning means into a voltage value by using a reference resistance with a bias voltage applied thereto.

2. An image sensor as defined in claim 2, characterized in that the first scanning means comprises a pixel selecting circuit for providing signals for sequentially selecting pixels on the line-by-line basis and a switch circuit for outputting sensor signals according to the pixel selecting signals from the pixel selecting circuit, and the second scanning means comprises a pixel selecting circuit for providing a signal for sequentially selecting pixels on the block-by-block basis and a switch circuit for outputting sensor signals according to the pixel selecting signals from the pixel selecting circuit.

3. An image sensor as defined in claim 2, characterized in that the pixel selecting circuits of the first scanning means and the second scanning means are composed each of a shift register circuit or a decoder circuit.

4. An image sensor as defined in claim 2, characterized in that the duration of a pixel selecting signal provided by the first scanning means corresponds to a time necessary for selecting pixels of one block.

5. An image sensor as defined in claim 1, characterized in that the solid-state light sensor element is a light sensor circuit which is capable of producing in a photoelectric converting element a sensor current proportional to the quantity of light falling thereon, converting the sensor current into a voltage signal by a transistor with a logarithmic output characteristic in a weak inverse state, and outputting a sensor signal corresponding to the voltage signal.

6. An image sensor as defined in claim 5, characterized in that the light sensor circuit is initialized before detecting light by removing an electric charge remaining in a parasitic capacitor of the photoelectric converting element by changing a drain voltage of a MOS type transistor having a logarithmic output characteristic in a weak inverse state lower than a normal working value.

7. An image sensor comprising a matrix of solid-state light sensor elements, each of which represents a unit pixel and is capable of reading out in a time series sensor signals of respective pixels by sequentially selecting pixel lines one by one and sequentially selecting sensor signals one by one in a selected pixel line, characterized in that each of the pixel lines is evenly divided into a plurality of blocks with each block composed of a specified number of pixels and a first scanning means is provided for sequentially reading out pixel sensor signals on a block-by-block basis starting from a first block, a buffer means is provided for temporally storing pixel sensor signals of a readout block and a second scanning means is provided for sequentially reading out the pixel sensor signals temporally stored in the buffer means.

8. An image sensor as defined in claim 7, characterized in that the first scanning means comprises a pixel selecting circuit for providing signals for sequentially selecting pixels on the line-by-line basis and a switch circuit for outputting pixel sensor signals according to the pixel selecting signals from the pixel selecting circuit, and the second scanning means comprises a pixel selecting circuit for providing a signal for sequentially selecting pixels on the block-by-block basis and a switch circuit for outputting sensor signals according to the pixel selecting signals from the pixel selecting circuit.

9. An image sensor as defined in claim 7, characterized in that the first scanning means is provided with a bias circuit for converting each sensor signal read from a corresponding pixel to a voltage value by using a reference resistance with a bias voltage applied thereto.

10. An image sensor as defined in claim 8, characterized in that the pixel selecting circuits of the first scanning means and the second scanning means are composed each of a shift register circuit or a decoder circuit.

11. An image sensor as defined in claim 8, characterized in that the duration of a pixel selecting signal provided by the first scanning means corresponds to a time necessary for selecting all pixels of one block.

12. An image sensor as defined in claim 7, characterized in that the solid-state light sensor element is a light sensor circuit which is capable of producing in a photoelectric converting element a sensor current proportional to the quantity of light falling thereon, converting the sensor current into a voltage signal by a transistor with a logarithmic output characteristic in a weak inverse state, and outputting a sensor signal corresponding to the voltage signal.

13. An image sensor as defined in claim 12, characterized in that the light sensor circuit is initialized before detecting light by removing an electric charge remaining in a parasitic capacitor of the photoelectric converting element by changing a drain voltage of a MOS type transistor having a logarithmic output characteristic in a weak inverse state lower than a normal working value.

14. A method of scanning the pixels of an image sensor comprised of a matrix of solid-state light sensor elements, each of which represents a unit pixel and is capable of reading out in a time series sensor signals of respective pixels by sequentially selecting pixel lines one by one and sequentially selecting sensor signals one by one in a selected pixel line, comprising the steps of dividing each of the pixel lines into a plurality of blocks with each block composed of a specified number of pixels, first scanning the pixels for sequentially reading out pixel sensor signals on a block-by-block basis starting from a first block, then scanning the pixels for sequentially reading out pixel sensor signals on a pixel-by-pixel basis from a selected block, and converting a pixel sensor signal scanned in the first scanning step into a voltage value by using a reference resistance with a bias voltage applied thereto.

15. A method as defined in claim 14, characterized in that the duration of a pixel selecting signal provided by the first scanning step corresponds to a time necessary for selecting pixels of one block.

16. A method as defined in claim 14, characterized in that the solid-state light sensor element is a light sensor circuit which is capable of producing in a photoelectric converting element a sensor current proportional to the quantity of light falling thereon, converting the sensor current into a voltage signal by a transistor with a logarithmic output characteristic in a weak inverse state, and outputting a sensor signal corresponding to the voltage signal.

17. A method as defined in claim 16, characterized in that the light sensor circuit is initialized before detecting light by removing an electric charge remaining in a parasitic

capacitor of the photoelectric converting element by changing a drain voltage of a MOS type transistor having a logarithmic output characteristic in a weak inverse state lower than a normal working value.

18. A method of scanning the pixels of an image sensor comprised of a matrix of solid-state light sensor elements, each of which represents a unit pixel and is capable of reading out in a time series sensor signals of respective pixels by sequentially selecting pixel lines one by one and sequentially selecting sensor signals one by one in a selected pixel line, comprising the steps of dividing each of the pixel lines into a plurality of blocks with each block composed of a specified number of pixels, first scanning the pixels for sequentially reading out pixel sensor signals on a block-by-block basis starting from a first block, temporally storing the pixel sensor signals of a readout block, and then scanning the pixels for sequentially reading out the temporally stored pixel sensor signals.

19. A method as defined in claim 18, characterized in that the first scanning step includes converting each sensor signal read from a corresponding pixel to a voltage value by using a reference resistance with a bias voltage applied thereto.

20. A method as defined in claim 18, characterized in that the duration of a pixel selecting signal provided by the first scanning step corresponds to a time necessary for selecting all pixels of one block.

21. A method as defined in claim 18, characterized in that the solid-state light sensor element is a light sensor circuit which is capable of producing in a photoelectric converting element a sensor current proportional to the quantity of light falling thereon, converting the sensor current into a voltage signal by a transistor with a logarithmic output characteristic in a weak inverse state, and outputting a sensor signal corresponding to the voltage signal.

22. A method as defined in claim 21, characterized in that the light sensor circuit is initialized before detecting light by removing an electric charge remaining in a parasitic capacitor of the photoelectric converting element by changing a drain voltage of a MOS type transistor having a logarithmic output characteristic in a weak inverse state lower than a normal working value.